

**REMARKS****Summary of the Office Action**

The title is allegedly not descriptive. A new title is required.

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawai et al. (JP 05-325880) (hereinafter "Sawai") in view of Kyushima (U.S. Patent 5,744,908) (hereinafter "Kyushima").

**Summary of the Response to the Office Action**

Applicants have amended claim 1 to differently describe embodiments of the disclosure of the instant application. Accordingly, claims 1 and 2 remain currently pending for consideration. Applicants have amended the title in response to the Office Action's requirement.

**New Title Requirement**

The title is allegedly not descriptive. A new title is required. Applicants have amended the title in response to the Office Action's requirement. Accordingly, withdrawal of the requirement for a new title is respectfully requested.

**Rejections under 35 U.S.C. § 103(a)**

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawai in view of Kyushima. Applicants have amended independent claim 1 to differently describe embodiments of the disclosure of the instant application. To the extent that these rejections might be deemed to apply to the claims as newly-amended, they are respectfully traversed for the following reasons. Applicants note that they are intimately familiar with the applied Sawai and

Kyushima patents because they are assigned to the same entity as the instant application. The same goes, for example, for U.S. Patent No. 5,594,301 which was recently filed in an Information Disclosure Statement in this application on May 14, 2008.

Independent claim 1 of the instant application has been newly-amended to describe an advantageous combination of features of a light detection tube including: (a) a photoelectric face for generating photoelectrons by the absorption of ultraviolet rays; and (b) a single crystal sapphire plate. Applicants respectfully submit that these features are described, for example, in paragraph [0019] of U.S. 2007/0272832, which is the published version of the instant application's specification.

Applicants respectfully submit that Sawai discloses a plate made of quartz, but does not disclose a plate made of sapphire. Accordingly, Sawai does not disclose the above-described element (b) of a single crystal sapphire plate.

Applicants respectfully submit that while Kyushima discloses that quartz or sapphire is utilized as the material of the photocathode, these materials are only listed for the invention of Kyushima. Furthermore, Applicants respectfully submit that Kyushima does not disclose a seal ring made of aluminum.

In the present invention, Applicants respectfully submit that the inventors discovered that a lattice defect occurring on the sapphire plate by the impurities is the cause of the phosphorescence or fluorescence generated from the sapphire plate in detecting the ultraviolet rays. See, for example, paragraphs [0004] to [0006] of US 2007/0272832. Applicants respectfully submit that the lattice defect typically occurs on the single crystal sapphire plate. See element (b) as described previously. Applicants respectfully submit that the phosphorescence or

fluorescence is generated from the sapphire plate in detecting the ultraviolet rays. See element (a) as described previously.

Applicants respectfully submit that the above-described problem is not disclosed in Sawai and Kyushima and is not a general problem typically considered even by those having ordinary skill in the subject art. Applicants note that this problem is typical, however, for a light detection tube which has the above-described elements (a) and (b). Because of the novel combination of features of a light detection tube as described in independent claim 1 of the instant application, Applicants respectfully submit that the present invention solved such a new problem for the first time.

Accordingly, Applicants respectfully submit that at the time the invention was made, one of ordinary skill in the art could not contemplate that a seal ring made of aluminum would solve the above-described problem. Applicants respectfully submit that it would not have been obvious to apply a seal ring made of aluminum to a light detection tube which has the above-described elements (a) and (b) in order to solve the unexpected problem.

Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. § 103(a) should be withdrawn because Sawai and Kyushima, whether taken separately or combined, do not teach or suggest each feature of claims 1 and 2 of the instant application. As pointed out by MPEP § 2143.03, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).”

### **CONCLUSION**

In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully request reconsideration and timely allowance of the pending claims.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

**EXCEPT** for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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